VULCAN

INSTALLATION & OPERATION MANUAL

GRC SERIES GAS FRYERS

MODELS

GRC 35	*ML-052083*
GRC45	*ML-052084*
GRC65	*ML-052085*
GRC85	*ML-052307*

MODEL GRC45

VULCAN-HART COMPANY, P.O. BOX 696, LOUISVILLE, KY 40201-0696, TEL. (502) 778-2791

FORM 30781 Rev. B (Oct. 2000)

www.vulcanhart.com

IMPORTANT SAFETY INFORMATION

THIS MANUAL HAS BEEN PREPARED FOR PERSONNEL QUALIFIED TO INSTALL GAS EQUIPMENT, WHO SHOULD PERFORM THE INITIAL FIELD START-UP AND ADJUSTMENTS OF THE EQUIPMENT COVERED BY THIS MANUAL.

POST IN A PROMINENT LOCATION THE INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE SMELL OF GAS IS DETECTED. THIS INFORMATION CAN BE OBTAINED FROM THE LOCAL GAS SUPPLIER.

IMPORTANT

IN THE EVENT A GAS ODOR IS DETECTED, SHUT DOWN UNITS AT MAIN SHUT-OFF VALVE AND CONTACT THE LOCAL GAS COMPANY OR GAS SUPPLIER FOR SERVICE.

FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS OR LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

IN THE EVENT OF A POWER FAILURE, DO NOT ATTEMPT TO OPERATE THIS DEVICE.

WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION OR MODIFICATION, SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH. READ THE INSTALLATION, OPERATING, AND MAINTENANCE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING OR SERVICING THIS EQUIPMENT.

TABLE OF CONTENTS

GENERAL 5
- Finish Options, Features, Construction Features, Battery Configurations 6
- Field Installable Accessories, Factory Installed Only 7
- GRC Series Frymate (Dump Station) 7
- Finish Options, Features 7

INSTALLATION 8
- Uncrating 8
- Location 8
- Installation Codes and Standards 8
- Assembly 8
  - Legs 8
  - Casters (Optional) 9
- Gas Connections 9
- Gas Pressures and Orifices 9
- Testing the Gas Supply Piping System 10
- Leveling the Fryer 10
- Flue Connections 10
- Electrical Connections 10

OPERATION 11
- Before First Use 11
- Filling the Fry Tank with Shortening 11
- Melting Solid Shortening 12
- Electronic Igniter 12
- Frying 13
- Daily 13
- Daily Filtering 14
  - Fryers Without Filter Ready Options 14
  - Filtering Procedure (Not Filter Ready) 14
  - Filter-Ready Fryers Only 14
  - Battery Interplumbing (Optional) 15
- Shortening Life 15
- High Limit Device 15
- Controls 16
- Power-up 17
- Fat Melt 17
- Heating 17
- To Begin Melt Cycle 17
- Cooking 17
- Manual Cooking Operation 17
- Cooking Time Remaining 18

Completion 18
Successive Product Cooking 18
During Slack Periods 18
Idle Mode 18
Operator Advice 18
Using the Editor 18
Programming the Controller 18
Definitions — Edit Product 18
Overview of Programming 19
Edit Product 20
Sel Setback 20
Calibrate 20
Boil Out 21
Recovery 21
Select Melt 21
Manual Setup 21
Oil Shutdown 22
Oil Tmr/Cntr 22
Error Messages 23
Cleaning (All Models) 23

MAINTENANCE 24
Lubrication 24
Vent 24
Service and Parts Information 24

INSTALLATION AND OPERATION MANUAL FOR GRC SERIES GAS FRYERS

KEEP THESE INSTRUCTIONS FOR FUTURE USE

GENERAL

Vulcan-Hart GRC Series Gas Fryers are available in 4 sizes with an array of features and options for a range of commercial fryer applications. While the overall tank widths on the GRC35 and GRC45 are the same, the GRC45 has a deeper tank area than the GRC35. Thus the GRC45 has larger tank capacity than GRC35 but not as large as GRC65. Likewise the GRC65 and GRC85 are the same width, but the GRC85 with a deeper tank area has a larger tank capacity than the GRC65. Each gas burner tube has 30,000 BTU input rating.

Model	No. Tubes	BTU Input	Width Inches / cm	Fry Compound Lb / kg
GRC35	3	90,000	$15^1/_2$ / 39	35-40 / 16-18
GRC45	4	120.000	$15^1/_2$ / 39	45-50 / 20-23
GRC65	5	150,000	21 / 53	65-75 / 29-34
GRC85	5	150,000	21 / 53	85-100 / 39-45

GRC Series Fryers can be freestanding or arranged in batteries of 2 to 5 units. The number preceding the model number of your GRC Series Fryer refers to the number of units in a battery. One of the units in a battery can be a Frymate Dump Station (only one per battery).

GRC Fryers have a microprocessor (computer) thermostat and timer control. GRS and GRD Fryers, while part of the GR Series, are covered in a separate manual.

Feature options include Basket Lift(s) with Timer(s); Tri, Twin or Single Baskets; Pilot or Electronic Igniter; Filter Ready; and Battery Interplumbing. Finish options include S/S Sides and Flue; S/S Tank; and Casters. A Fat Melt cycle and S/S Legs are standard.

Your Vulcan Fryer is constructed and designed to give long satisfactory service, providing it is properly installed, adjusted and maintained.

The Mobile Filter is covered under separate Installation and Operation Manual.

GRC Series Fryer — Finish Options

All Models	Front Door	Ext. Sides & Flue	Tank	Legs
Standard	Stainless Steel	Painted Steel	Carbon Steel	Stainless Steel Legs
Optional	Not Applicable	Stainless Steel	Stainless Steel	Casters

GRC Series Fryer — Features

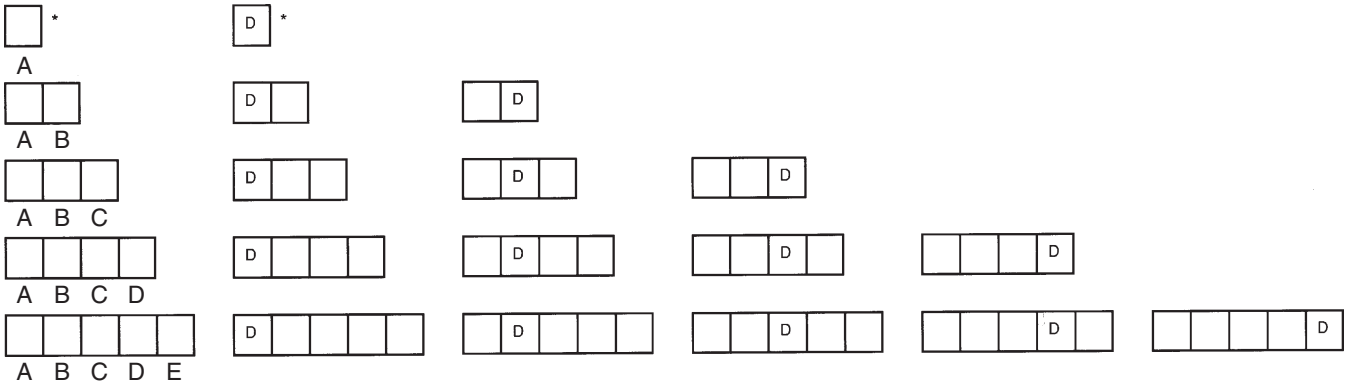
Model	Igniter		Fat Melt Cycle	Thermostat	Basket Lift(s)	Basket(s)		
	Pilot	Electronic				Twin	Single	Tri
GRC35, GRC45, GRC65, GRC85	Std.	Opt.	Std.	Computer	Opt.	Std. Std.	Opt. Opt.	N/A Opt.

GRC Series Fryer — Construction Features

Model	Filter Ready	Battery Configuration	Battery Interplumbing
GRC35	Opt. (Use MF50.)	Opt.	Opt.
GRC45	Opt. (Use MF50.)	Opt.	Opt.
GRC65	Opt. (Use MF85.)	Opt.	Opt.
GRC85	Opt. (Use MF85.)	Opt.	Opt.

BATTERY CONFIGURATIONS

Batteries of up to five units wide can be configured with any GR Series Fryer or Frymate Dump Station (either 15½" or 21" wide). Possible configurations showing positions A through E are depicted below:



NOTES:

D = Dump Station; ☐ = Fryer.

*Indicates interplumbing is not applicable.

The filter can be located in any position within the battery, whether it is a Frymate Dump Station or fryer.

All options and accessories can be used in batteries.

Field Installable Accessories	Factory Installed Only
Casters Twin Baskets Tri Baskets (GRC65/GRC85 only) Single Baskets Heat Lamp Flex Hose 4' Flex Hose 5' S/S Vat Cover Batter Tray Tank Skimmer Tank Scoop	Electronic Pilot Basket Lift S/S Tank S/S Sides Battery Configuration Battery Interplumbing

GRC SERIES FRYMATE (Dump Station)

Model RO Frymate Dump Station can be configured in batteries with fryers in either 15½" or 21" width. Frymate provides a final prep area where excess oil drains away and product is seasoned, packaged, and kept ready for sale.

RO Series Frymate — Finish Options

Model RO15, RO21 & RO21S*	Front Door	Sides & Dummy Flue	Legs
Standard	Stainless Steel	Painted Steel	Stainless Steel Legs
Optional	Not Applicable	Stainless Steel	Casters

*Model RO15 is for use with all GR35 and GR45 Series Fryers.
Model RO21 is for use with all GR65 Series Fryers.
Model RO21S is for use with all GR85 Series Fryers.

RO Series Frymate — Features

Heat Lamp	Tops				Side Liners
	Drain	Solid	Pan Solid	Pan Perforated	
Opt.	Std.	Opt.	Opt.	Opt.	Opt.

INSTALLATION

Before installing the fryer, verify that the type of gas (natural or propane) agrees with the specifications on the fryer data plate which is located on the inside of the door panel. Also be sure the unit is built for the installation elevation.

UNCRATING

This fryer was carefully inspected before leaving the factory. The transportation company assumes full responsibility for safe delivery upon acceptance of the shipment. Immediately after unpacking the fryer, check for possible shipping damage. If the fryer is found to be damaged, save the packaging material and contact the carrier within 15 days of delivery.

Do not use the door or its handle to lift or move the fryer.

LOCATION

The equipment area must be kept free and clear of combustible substances.

Minimum clearance from combustible and non-combustible construction is 6" (15 cm) from the sides and 6" (15 cm) from the back of the fryer. There must be at least 16" (40.6 cm) clearance between the fryer and any open top flame units. Adequate clearances for servicing and proper operation must be allowed. The unit may be installed on combustible floors.

Install the fryer in an area with sufficient air supply for combustion of the gas at the fryer burners. Provide adquate clearance for air openings into the combustion chamber. Do not obstruct the flow of combustion and ventilation air.

Do not permit fans to blow directly at the fryer. Avoid open windows next to the sides or back. Avoid wall-type fans which create air cross currents within the room.

INSTALLATION CODES AND STANDARDS

In the United States of America:

Vulcan-Hart fryers should be installed in accordance with state and local codes, or in the absence of local codes, with the National Fuel Gas Code, ANSI-Z223.1 (latest edition), available from American Gas Association, Inc., 1515 Wilson Boulevard, Arlington, VA 22209, and with ANSI-NFPA Standard #96 (latest edition), *Vapor Removal from Cooking Equipment,* available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

In Canada:

Vulcan-Hart fryers should be installed in accordance with local codes, and CAN/CGA-B149.1 Installation for Natural Gas Burning Appliances and Equipment (latest edition), or CAN/CGA-B149.2 Installation for Propane Burning Appliances and Equipment (latest edition). Copies may be obtained from The Canadan Gas Association, 178 Rexdale Blvd., Etobicoke, Ontario, Canada M9W 1R3.

ASSEMBLY

The fryer must be restrained with adequate ties to prevent tipping when installed in order to avoid the splashing of hot liquid.

Legs

Position fryer in an open space near the final installation area. Tilt fryer on its side, being careful to avoid scratching the finish. Thread legs into mounting holes provided on bottom of fryer by screwing in a clockwise rotation until tight.

Carefully raise fryer to its normal position and place it in installing location.

Casters (Optional)

It is recommended that casters be installed on all batteried appliances.

If the fryer is equipped with casters the gas connector (available from Vulcan-Hart) must comply with the Standard for Connectors of Movable Gas Appliances, ANSI-Z21.69 (latest edition), and a quick-disconnect device that complies with the Standard for Quick-Disconnect Devices for Use With Gas Fuel, ANSI-Z21.41 (latest edition).

Provide a gas line strain relief (Fig. 1) to limit movement of the fryer without depending on the connector and/or any quick-disconnect device or its associated piping to limit the appliance movement.

If it is necessary to disconnect the restraint, turn off the gas supply before disconnection. Reconnect the restraint before turning the gas supply on and returning the unit to its installation position.

Instructions for installing casters to the fryer are included with the casters.

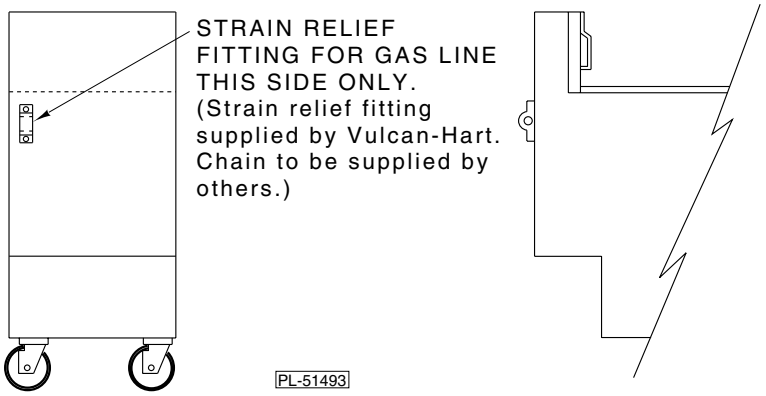


Fig. 1

GAS CONNECTIONS

CAUTION: All gas supply connections and any pipe joint compound must be resistant to the action of propane gases.

The gas inlet is located at the lower right rear. Codes require that a gas shutoff valve be installed in the gas line ahead of the fryer.

The gas supply line must be at least the equivalent of ½" iron pipe. If using the optional quick-disconnect flex hose, ¾" iron pipe must be used unless ¾" to ½" reducing fittings are used. Make sure the pipes are clean and free of obstructions, dirt, and piping compound. A battery requires one or two connections of appropriate size and type for the gas requirement.

WARNING: PRIOR TO LIGHTING, CHECK ALL JOINTS IN THE GAS SUPPLY LINE FOR LEAKS. USE SOAP AND WATER SOLUTION. DO NOT USE AN OPEN FLAME.

After piping has been checked for leaks, fully purge gas pipes to remove air.

GAS PRESSURES AND ORIFICES

The standard orifices are set at 4" W.C. (Water Column) pressure for natural gas and 10" W.C. (Water Column) pressure for propane gas. A pressure regulator is supplied as part of the gas control valve.

TESTING THE GAS SUPPLY PIPING SYSTEM

When test pressures exceed ½ psig (3.45 kPa), the fryer and its individual shutoff valve must be disconnected from the gas supply piping system.

When test pressures are ½ psig (3.45 kPa) or less, the fryer must be isolated from the gas supply piping system by closing its individual shutoff valve.

LEVELING THE FRYER

Once gas connections have been made, place a spirit level on top of the fryer. Adjust the legs to ensure that the fryer is level front-to-back and side-to-side in the final installed position.

FLUE CONNECTIONS

The fryer must be located under a hood which has an adequate connection to an exhaust duct. The hood must extend 6" (15 cm) beyond fryer sides.

Adequate ventilation must be provided and must comply with NFPA Standard #96, (latest edition), and with local codes.

Clearance above fryer should be adequate for products of combustion to be removed efficiently. An 18" (46 cm) minimum clearance should be maintained between the flue vent and the filters of the hood venting system.

Never make flue connections directly to the fryer. Do not obstruct the flow of the flue gases from the flue duct located at the rear of the appliance.

Adequate air should be provided in the kitchen to replace air taken out by the ventilating system. This will prevent fryer function from being affected by a reduced atmospheric pressure.

ELECTRICAL CONNECTIONS

WARNING: ELECTRICAL AND GROUNDING CONNECTIONS MUST COMPLY WITH THE NATIONAL ELECTRICAL CODE AND/OR OTHER LOCAL CODES.

WARNING: APPLIANCES EQUIPPED WITH ELECTRICAL SUPPLY CORD(S) ARE PROVIDED WITH A THREE-PRONG GROUNDING PLUG WHICH MUST BE CONNECTED TO A PROPERLY GROUNDED RECEPTACLE. IF THE RECEPTACLE IS NOT THE PROPER GROUNDING TYPE, CONTACT AN ELECTRICIAN. DO NOT REMOVE THE GROUNDING PRONG FROM THE PLUG.

Some fryers (depending on options) are equipped with a 120 Volt/60 Hz./1 Phase cord and plug which requires only that it be plugged into a properly grounded 120 volt receptacle.

Do not connect fryer to electrical supply until after gas connections have been made.

OPERATION

WARNING: HOT OIL AND PARTS CAN CAUSE BURNS. USE CARE WHEN OPERATING, CLEANING AND SERVICING THE FRYER.

WARNING: SPILLING HOT FRYING COMPOUND CAN CAUSE SEVERE BURNS. DO NOT MOVE FRYER WITHOUT DRAINING ALL FRYING COMPOUND FROM THE TANK.

BEFORE FIRST USE

Clean the Fryer

Using a non-corrosive, grease-dissolving commercial cleaner, clean the protective metal oils from all surface parts and the tank interior. Follow the cleaner manufacturer's directions. Rinse thoroughly and drain by opening the drain valve accessible when the door is opened. Wipe tank completely dry with a soft clean cloth.

Clean all fryer accessories. Rinse all parts thoroughly after cleaning and wipe dry.

Seasoning

Light seasoning of the backsplash area is required to avoid possible surface corrosion. With a soft, lint-free cloth, apply a thin layer of cooking oil over the entire backsplash area. This should also be done after every cleaning.

FILLING THE FRY TANK WITH SHORTENING

Liquid shortening may be used in all GRC Series Fryers.

Only fryers equipped with the MELT cycle may use solid shortening. The melt cycle **MUST** be used if using solid shortening. (See MELTING SOLID SHORTENING in this manual.)

Tank warranty may be voided by improper operation. Turn gas valve off when draining or filling.

Fill fryer tank to the fill level line on back wall about three inches above the tank tubes (Fig. 2). Keep shortening at fill level line in fry tank. Add fresh shortening as needed. Do not overfill tank.

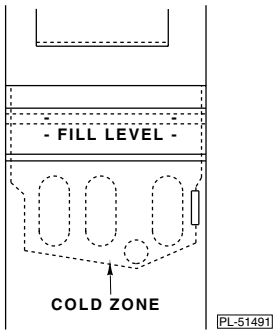


Fig. 2

MELTING SOLID SHORTENING

Melting solid shortening without using the melt cycle will damage the fry tank and scorch the shortening.

Only fryers equipped with the MELT cycle may use solid shortening. Solid shortening must be gently warmed to the liquid state before heating to frying temperatures. To begin the melt cycle, press the MELT switch.

ELECTRONIC IGNITER

CAUTION: Before turning the burners on, the fry tank must be filled with liquid or melted shortening. If this is not done, the tank walls can be damaged. Warpage can cause leaks.

1. Plug the power cord to an appropriate grounded receptacle.

2. Turn the gas valve extension arm (Fig. 3) (located inside the cabinet door) to the OFF position. Wait 5 minutes for unburned gas to vent.

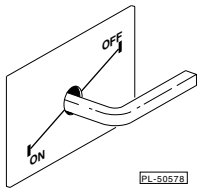


Fig. 3

3. Turn the gas valve extension arm to the ON position.

4. Push the power switch to the ON position.

5. If pilot fails to light within 90 seconds, push the power switch to the OFF position and repeat Steps 3 and 4 until the pilot lights.

6. Thirty seconds after the pilot ignites, the fryer will begin heating to 350°F (177°C).

Turning the Fryer OFF

1. Push the power switch to the OFF position.

2. To shut off all gas to the system, turn the gas valve extension arm to the OFF position.

Extended Shutdown

1. Turn manual gas shutoff valve OFF.

2. Push the power switch to the OFF position and unplug the fryer.

3. Turn gas valve extension arm to the OFF position.

4. Apply a thin coat of cooking oil to tank interior and tank back to prevent rust.

FRYING

Heat shortening to set temperature.

Pieces of product to be fried should be about the same size to ensure the same doneness.

Drain or wipe dry raw or wet foods to minimize splatter when lowering into the hot oil.

Do not overfill baskets.

Recommended maximum capacities are:

Models	Lb / kg of Product (1 Basket)	Total Lb / kg of Product (2 Baskets)	Total Lb / kg of Product (3 Baskets)
GRC35	$1^1/_2$ / 0.6	3 / 1.4	N/A
GRC45	$2^1/_2$ / 1.1	5 / 2.3	N/A
GRC65	3 / 1.4	6 / 2.7	9 / 4.1
GRC85	$3^1/_2$ / 1.6	7 / 3.2	$10^1/_2$ / 4.8

Carefully lower baskets into oil.

When frying doughnuts and fritters, turn product only once during frying.

When cooking French fries or onion rings, shake basket several times in a way that does not splatter the shortening.

Batter-covered foods should be dropped carefully, one by one, into shortening or basket. If you use the basket, first dip basket into shortening to reduce batter build-up on basket surfaces.

Corn-on-the-cob must be submerged to fry uniformly. Place corn in bottom of basket. Stack an empty basket on top of corn to keep it submerged.

When frying is completed, remove baskets or product. Hang baskets on rear basket hangers. Remove food and season it. Do not salt food over the shortening because salt could cause a chemical change in the oil.

DAILY

Add approximately 15% new shortening daily. Keep level of shortening at fill level line in fry tank. Add fresh shortening as needed.

DAILY FILTERING

Fryers Without Filter Ready Options

Turn gas valve off when draining or filling.

Always filter the shortening while liquified. A cold fryer will not drain properly because the shortening under the cold zone tube area will remain hard, even if the heat is on for a few minutes. If necessary, the clean-out rod may be used to carefully stir up hard fat to an area above the cold zone (see Fig. 2) where it will melt. After the cold zone is liquified, turn the fryer thermostat and gas valve off.

Shortening life will be extended by filtering at least once a day or more often if conditions warrant. A commercial power filter (available from other manufacturers) may be used. Follow the manufacturer's operating instructions for draining, straining, and replacing shortening in the fry tank.

Another way to filter is to drain the shortening from the drain pipe through a filter bag, or cover the receiving container with cheesecloth or other filtering material.

Filtering Procedure (Not Filter Ready)

1. Turn the fryer off.
2. Slowly remove the baskets, especially if shortening is hot, to prevent splashing.
3. Open the fryer door and attach the drain pipe to the drain valve.
4. Select a container of sufficient capacity and place it below the drain pipe.
5. If you are using a filter bag, tie it securely to the drain pipe. If other filter medium is used, place it in the container.
6. Open the drain valve carefully so the oil stream is directed through the filter.
7. With a small amount of warm shortening, flush out scraps and sediment in the fry tank. Drain the tank thoroughly and wipe clean.
8. Should it be necessary to clean the tank more thoroughly, follow the procedure shown in CLEANING — WEEKLY OR AS REQUIRED in this manual.
9. Close the drain valve.
10. Pour strained shortening back into the tank.
11. Add shortening to the fill level line.

Filter-Ready Fryers Only

Follow instructions in the MOBILE FILTER OPERATING MANUAL shipped with the mobile filter. If the manual is not found, contact your dealer to obtain the manual before operating the mobile filter.

Battery Interplumbing (Optional)

A battery of fryers equipped with optional interplumbing connects the fry tanks to a common drain. Each tank has an individual drain valve; these should only be opened one at a time.

Always be sure you have adequate container capacity before opening drain; monitor draining process.

After oil has filtered into the mobile filter, it is pumped back to the individual tank by (1) closing the drain valve, and (2) opening the valve on the return line (Fig. 4). Only one return valve should be opened at any one time.

After oil is pumped back, close the return valve. Fill tank to the fill level line on the back wall of the fry tank.

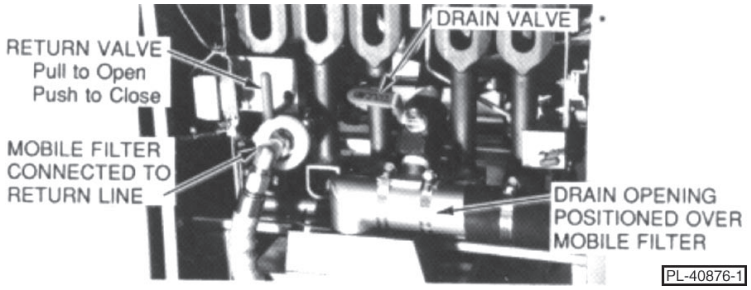


Fig. 4

SHORTENING LIFE

Shortening life may be extended by following these guidelines:

- Do not salt foods over the fryer.
- Use good quality shortening.
- Filter shortening daily at a minimum.
- Replace shortening if it becomes poorly flavored.
- Keep equipment and surroundings clean.
- Set thermostats correctly.
- Remove excess moisture and particles from food products before placing in fryer.

HIGH LIMIT DEVICE

If the shortening becomes overheated, a high temperature shutoff device will turn the gas valve off and extinguish the pilot. DO NOT relight the pilot until the shortening temperature is below 300°F (149°C). If this situation persists, contact your local Vulcan-Hart authorized service office.

CONTROLS — Models GRC (Fig. 5)

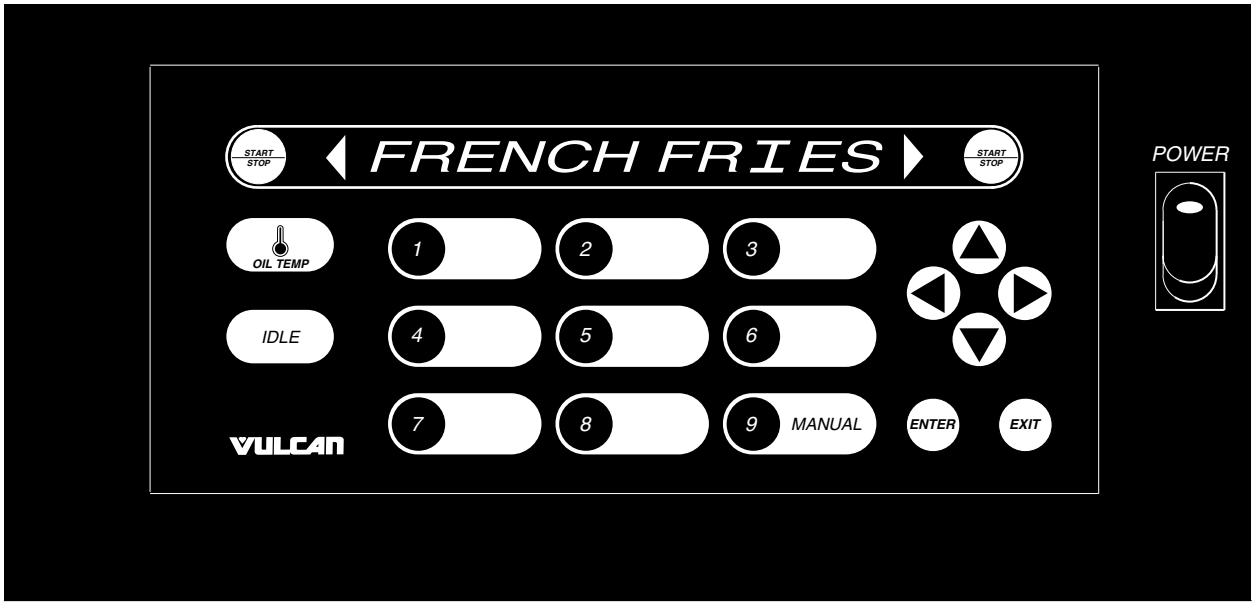


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Fig. 5

DISPLAY	—	A twelve character display provides information during operation.
HEAT	—	HEAT indicator is lit when burners are on, not lit when off.
PRODUCT PADS (1-8)*	—	Programmable product pads select pre-programmed cooking parameters.
MANUAL PRODUCT (9)	—	Manual product pad can be programmed or allows manual operation.
OIL TEMP	—	Temperature of oil in vat will be displayed after this is pressed.
IDLE	—	Toggles Idle Mode on or off. Idle can be programmed to maintain 275°F or 350°F (135 or 177°C).
◄ ►	—	Green light, indicates left or right basket.
START/STOP	—	Starts or stops the cooking timer for a basket.
▸ ◂ ▲ ▾, ENTER, EXIT	—	Moves around the menu system or edits product or system information.

* Two sheets of peel-off labels with most common product names are supplied. Applicable product names can be affixed to the appropriate Product Pad.

POWER-UP

After being turned on, the control executes a self-check routine. See Error Messages, page 23.

After going through the shelf-check routine, the control enters either Fat Melt or Heating mode.

FAT MELT

After power-up, if the oil temperature is below 135°F (57°C) and the FAT MELT mode is enabled, the fryer enters MELT mode. MELT is displayed. Whenever the oil temperature is below 135°F (57°C), if fat melt mode is enabled and the controller is not timing a product, the fryer will be in the MELT mode. If you press OIL TEMP, the oil temperature will display.

If you will never be using solid shortening and use liquid shortening only, the controller can be programmed so it will enter heating mode without going into the MELT cycle. See SELECT MELT, MELT DISABLED, page 21.

HEATING

During Heating mode, the burners will heat to the set point of 350°F (177°C) or until a product cook cycle is begun. WAIT displays and the HEAT indicator is lit. After reaching 335°F (168°C), READY displays.

PRODUCT PADS (1-8) can be used to select a product cooking cycle.

START/STOP initiates the timed cycle for either left or right basket and indicates time remaining. The oil temperature is controlled by the programmed temperature for the selected product. After a product cycle has begun, the product name will display with an arrow indicating left or right basket.

MANUAL PRODUCT (9), allows you to set the time and temperature for the batch.

IDLE changes to IDLE mode (sets temperature back to 275°F (135°C) if programmed — see SEL SETBACK, page 20).

OIL TEMP — press to display the oil temperature.

TO BEGIN MELT CYCLE

		DISPLAY
1.	Fill vat with shortening.	
2.	Turn Power switch ON.	
3.	If Fat Melt is enabled and oil temperature is below 135°F…	MELT
4.	Allow the cooking oil to heat…	WAIT
5.	After oil temperature reaches 335°F, a buzzer sounds…	READY

COOKING

1.	Press a Product Pad [1 - 8]…	FRENCH FRIES
2.	Load Basket. Press left or right START/STOP Pad and lower basket. Timer counts down…*	XX:XX
3.	When finished, buzzer sounds…*	DONE
4.	Press left or right START/STOP Pad to stop buzzer.	

* Display indicates left or right basket. When both baskets are in use, count down time and DONE for the left basket are displayed on left, right basket info is displayed on right.

MANUAL COOKING OPERATION

This allows the operator to select the cooking time and temperature to cook a batch of product.

With at least one basket not in use, press the MANUAL pad (9).

If the previous time and temperature were OK, press START/STOP to begin cooking.

If you want to set the time and temperature, use the editor…

DISPLAY	INSTRUCTION
TIME = 00:10	Use ▲▼►◄ to edit the time. Press ENTER.
TEMP = XXX°F	Use ▲▼►◄ ; edit temperature. Press ENTER.
	Press START/STOP to begin cooking.

COOKING TIME REMAINING

XX:XX YY:YY Left basket displays on left; right basket on right; time is in Minutes:Seconds. If only one basket is cooking, the other will indicate READY or WAIT.

XX:XX READY

COMPLETION

After the timer counts down to 00:00, a buzzer sounds and the display prompts DONE on the left or right side of the display, indicating which basket is done. Press START/STOP to remove the DONE message and stop the tone.

SUCCESSIVE PRODUCT COOKING

After selecting a Product by pressing its Product Pad (1 - 8), the timer can be started by pressing the START/STOP pad. If the START/STOP pad is pressed during a cooking cycle, the product cycle is terminated. Fryer returns to READY.

DURING SLACK PERIODS

If the fryer is not going to be used for an extended period, oil life is enhanced by pressing IDLE if SETBACK is enabled. With the setback feature enabled, after 30 minutes of non-use, the fryer automatically assumes Idle mode where it maintains 275°F (135°C) temperature. If Setback is disabled, the fryer does not automatically go into Idle mode and will continue to maintain the last cook cycle temperature.

IDLE MODE

If setback is enabled, during idle mode, the Setback temperature of 275°F (135°C) will be maintained until IDLE is pressed.

IDLE MODE WITH SETBACK - PRESS IDLE TO RESUME

If the setback is not enabled, 350°F is maintained during Idle mode. IDLE MODE - PRESS IDLE TO RESUME

NOTE: The purpose of the setback temperature is to extend oil life during slack periods.

OPERATOR ADVICE

OIL indicates the programmed number of hours has expired and reminds the operator that the oil should be changed or filtered. To remove the advice, reset the timer to a non-zero value. A zero setting turns the oil timer off.

TOO HI or TOO LOW indicate invalid edit entry.

USING THE EDITOR

Names or Messages use the 12 character alpha-display. When entering data …

▲ begins at A and increments thru the alphabet; ▼ begins with Z. Select the correct letter. ▶ moves Right one character or space; ◀ moves Left. Use a series of ▲▼▶◀ to display the name or message you want.

Time or Temperature …

▲▼ increment up or down (0 - 9). Select the correct number. ▶ moves Right one space; ◀ moves Left.

°F or °C …

▲▼ toggle between Fahrenheit and Celsius; temperature is automatically converted. All temperatures display in the most recently edited temperature scale.

PROGRAMMING THE CONTROLLER

Enter the menu system by pressing Product Pads 2 and 3 at the same time until -FUNCTIONS- is displayed. The controller must not be in a timed product cycle to enter the menu system.

Step through the program using ▼ . If you go too far, ▲ will return one step.

EDIT PRODUCT	RECOVERY
SEL SETBACK	SELECT MELT
CALIBRATE	MANUAL SETUP
BOIL OUT	OIL SHUTDOWN
	OIL TMR/CNTR

Description of each program element follows.

DEFINITIONS — EDIT PRODUCT

PRODUCT KEY = The Product Pad, (1 - 8)

PRODUCT NAME = any 12 alpha characters.

COOK TIME = Minutes:Seconds of cooking duration. Controls basket lifts and buzzer. Elastic time compensates for under- or over-temperature.

COOK TEMP = fryer burner thermostat control.

DUTY TIME = time between start and the duty message.

DUTY MSG = displays after duty time lapses during cooking cycle, e.g. ‘shake basket’.

HOLD TIME = amount of time after the last batch is processed before product begins to stale. Buzzer notifies when HOLD TIME is over.

CLR PRODUCT? = ENTER erases product from memory.

OVERVIEW OF PROGRAMMING

-FUNCTIONS-	EDIT PRODUCT	# CHARS - TYPE	UNITS - LIMITS
	PRODUCT NAME	12 - ALPHA CHARACTERS	[A - Z]
	COOK TIME	XX:XX - TIME	MINUTES:SECONDS - [00:00 - 99:59]
	COOK TEMPERATURE	XXX - TEMPERATURE	[°F OR °C] - [250 - 375°F] or [121 - 191°C]
	DUTY TIME	XX:XX - TIME	MINUTES:SECONDS - [00:00 - 99:59]
	DUTY MESSAGE	12 - ALPHA CHARACTERS	[A - Z]
	HOLD TIME	XX:XX - TIME	MINUTES:SECONDS - [00:00 - 99:59]
	SEL SETBACK	↑↓ - TOGGLE	SETBACK - [ON - OFF] ON = IDLE @ 275°F (135°C) - With AUTO OFF = IDLE @ LAST TEMP.-Without AUTO
	CALIBRATE	XXX- TEMPERATURE	°F or °C - [XXX ± 30°F] or [YYY ± 17°C]
	BOIL OUT	XXX- TEMPERATURE	°F or °C - [190 - 205°F] or [88 - 96°C]
	RECOVERY	XX:XX - TIME	MINUTES:SECONDS - [00:00 - 99:59]
	SELECT MELT	↑↓ - TOGGLE	MELT - [ON - OFF]
	MANUAL SETUP	↑↓ - TOGGLE	MANUAL - [ON - OFF]
	OIL SHUTDOWN	↑↓ - TOGGLE	COUNT - [ON - OFF]
	OIL TMR/CNTR	XXX - NUMERIC	HOURS - [0 = OFF, 1 - 255]

EDIT PRODUCT

To Add or Change a Product Cook Cycle…

DISPLAY	INSTRUCTION
READY	Press 2 & 3 simultaneously.
-FUNCTIONS-	Press ▼.
EDIT PRODUCT	Press ENTER.
PRODUCT KEY	Press Pad Number (1-8).
PRODUCT NAME	Press ENTER.
	Enter the product name. Use ▲▼►◄ . When the display is OK, press EXIT.
PRODUCT NAME	Press ▼.
COOK TIME	Press ENTER.
TIME = XX:XX	Enter the time. Use ▲▼►◄ . When OK, press EXIT.
COOK TIME	Press ▼.
COOK TEMP	Press ENTER.
TEMP = XXX°F	Enter the temperature. Use ▲▼►◄ . When OK, press EXIT.
COOK TEMP	Press ▼.
DUTY TIME	Press ENTER.
DT TM = XX:XX	Enter duty time. Use ▲▼►◄ . When OK, press EXIT.
DUTY TIME	Press ▼.
DUTY MSG	Press ENTER.
	Enter the message. Use ▲▼►◄ . When OK, press EXIT.
DUTY MSG	Press ▼.
HOLD TIME	Press ENTER.
HD TM = XX:XX	Enter hold time. Use ▲▼►◄ . When OK, press EXIT.
HOLD TIME	Press ▼.
CLR PRODUCT?	Press EXIT.

DO NOT press ENTER unless you want to erase the product from memory.

-FUNCTIONS-	Press Exit.
READY	

SEL SETBACK

ON sets the IDLE temperature at 275°F; fryer will automatically go into Idle after 30 minutes. OFF sets the IDLE temperature at 350°F and will not automatically enter Idle after 30 minutes. Use ▲ or ▼ to toggle SETBACK ON or SETBACK OFF.

DISPLAY	INSTRUCTION
READY	Press 2 & 3 simultaneously.
-FUNCTIONS-	Press ▼.
EDIT PRODUCT	Press ▼.
SEL SETBACK	Press ENTER.
SETBACK OFF	Press ▲ or ▼.
SETBACK ON	Press EXIT.
SEL SETBACK	Press EXIT.
-FUNCTIONS-	Press EXIT.
READY	

CALIBRATE

This feature allows the operator to calibrate the temperature sensors in the fryer. Before calibrating, temperature must be stable at 350°F.

DISPLAY	INSTRUCTION
READY	Press 2 & 3 simultaneously.
-FUNCTIONS-	Press ▼.
EDIT PRODUCT	Press ▼.
SEL SETBACK	Press ▼.
CALIBRATE	Press ENTER.
TEMP = 347°F	Measure the vat temperature with a thermometer device. Use ▲▼►◄ to edit the displayed temperature so it agrees with the measurement. When OK, press EXIT.
CALIBRATE	Press EXIT.
-FUNCTIONS-	Press EXIT.
READY	

BOIL OUT

BOIL OUT heats water in the vat for cleaning purposes for 15 minutes. If operating at a higher altitude, the boiling temperature may be lowered.

DISPLAY	INSTRUCTION
READY	Press 2 & 3 simultaneously.
-FUNCTIONS-	Press ▼.
EDIT PRODUCT	Press ▼.
SEL SETBACK	Press ▼.
CALIBRATE	Press ▼.
BOIL OUT	Press ENTER.
START BOIL	- To change boil temperature, press ▼.
CH BOIL TEMP	Press ENTER.
TEMP = 195°F	Alter boil temp. Use ▲▼►◄. When OK, Press EXIT.
CH BOIL TEMP	Press ▼.
START BOIL	- To begin boil, press ENTER.*
BOIL OUT	
TIME = 15:00	Time Counts down or EXIT.
DRAIN VAT	Suspends operation. Turn fryer OFF.

* To return to -FUNCTIONS- press EXIT.

RECOVERY

Displays the previous recovery time, the time it takes to recover from 275 to 325°F.

DISPLAY	INSTRUCTION
READY	Press 2 & 3 simultaneously.
-FUNCTIONS-	Press ▼.
EDIT PRODUCT	Press ▼.
SEL SETBACK	Press ▼.
CALIBRATE	Press ▼.
BOIL OUT	Press ▼.
RECOVERY	Press ENTER.
REC TM = XX:XX	Press EXIT.
-FUNCTIONS-	Press EXIT.
READY	

SELECT MELT

▲▼ toggles MELT DISABLE or MELT ENABLE. ENABLE is required when using solid shortening to automatically MELT if below 135°F.

DISPLAY	INSTRUCTION
READY	Press 2 & 3 simultaneously.
-FUNCTIONS-	Press ▼.
EDIT PRODUCT	Press ▼.
SEL SETBACK	Press ▼.
CALIBRATE	Press ▼.
BOIL OUT	Press ▼.
RECOVERY	Press ▼.
SELECT MELT	Press ENTER.
MELT ENABLE	Press ▲ or ▼ to toggle.
MELT DISABLE	When OK, press EXIT.
SELECT MELT	Press EXIT.
-FUNCTIONS-	Press EXIT.
READY	

MANUAL SETUP

▲▼ toggles MANUAL ON or MANUAL OFF. ON allows time/temp entry for the batch. OFF disables manual operation and allows the manual pad (9) to be reprogrammed as a regular product pad.

DISPLAY	INSTRUCTION
READY	Press 2 & 3 simultaneously.
-FUNCTIONS-	Press ▼.
EDIT PRODUCT	Press ▼.
SEL SETBACK	Press ▼.
CALIBRATE	Press ▼.
BOIL OUT	Press ▼.
RECOVERY	Press ▼.
SELECT MELT	Press ▼.
MANUAL SETUP	Press ENTER.
MANUAL OFF	Press ▼ or ▲ to toggle.
MANUAL ON	When OK, press EXIT.
MANUAL SETUP	Press EXIT.
-FUNCTIONS-	Press EXIT.
READY	

OIL SHUTDOWN

The oil service has two modes:

Shutdown = ON - Counter with Shutoff

The operator sets the number of product cook cycles before oil service action is taken by the controller. After that number of cook cycles has elapsed, the heat will be shut off, a SERVICE OIL message will be flashed on the display, and the keypad will be locked out. Turning the fryer off, then on, will clear the condition and restore the count number set by COUNT = XXX in the following section.

Shutdown = Off - Timer without Shutoff

The controller keeps track of the number of hours since OIL TM = XXX HR was set by the operator. When the time has elapsed, a small oil indicator light will turn on. Service of the fryer is not interrupted. The oil indicator remains lit until a time is re-entered for OIL TM = XXX HR in the following section. Turning the fryer off, then on, will clear the indicator.

DISPLAY	INSTRUCTION
READY	Press 2 & 3 simultaneously.
-FUNCTIONS-	Press ▼.
EDIT PRODUCT	Press ▼.
SEL SETBACK	Press ▼.
CALIBRATE	Press ▼.
BOIL OUT	Press ▼.
RECOVERY	Press ▼.
SELECT MELT	Press ▼.
MANUAL SETUP	Press ▼.
OIL SHUTDOWN	Press ENTER.
COUNT ON	Press ▼ or ▲ to toggle.
COUNT OFF	When OK, press EXIT.
OIL SHUTDOWN	Press EXIT.
-FUNCTIONS-	Press EXIT.
READY	

OIL TMR/CNTR

The controller will alert the operator when the oil needs to be changed. OIL TM = XXX sets the number of hours before the alert will be given.

DISPLAY	INSTRUCTION
READY	Press 2 & 3 simultaneously.
-FUNCTIONS-	Press ▼.
EDIT PRODUCT	Press ▼.
SEL SETBACK	Press ▼.
CALIBRATE	Press ▼.
BOIL OUT	Press ▼.
RECOVERY	Press ▼.
SELECT MELT	Press ▼.
MANUAL SETUP	Press ▼.
OIL SHUTDOWN	Press ▼.
OIL TMR/CNTR	Press ENTER.
OIL TM = XXX HR / COUNT = XXX	Use ▲ or ▼ to reset the timer or counter. When set time is OK, press EXIT.
OIL TMR/CNTR	Press EXIT.
-FUNCTIONS-	Press EXIT.
READY	

If oil shutdown is OFF: The controller will alert the operator when the oil needs to be changed. OIL TM = XXX sets the number of hours before the alert will be given.

If oil shutdown is ON: The controller will shut off the heat, lock out the keypad, and signal to service the oil. The fryer must be turned off to clear this condition. COUNT = XXX sets the number of cook cycles before shutoff. Turning the fryer off, then on, automatically restores "COUNT = XXX" to the number originally set by the operator.

ERROR MESSAGES

TEMP TOO HI indicates the fryer has operated at a higher than normal temperature and has shut down and become inoperable.

CALL SERVICE indicates that the fryer has a problem that demands the attention of a Vulcan authorized servicer. The fryer will shut down and become inoperable.

Arrows flashing indicates RAM failure. If any failures are present, the fryer remains in back-up mode.

CLEANING — All Models

WARNING: UNPLUG FRYER BEFORE CLEANING.

Daily

Clean the exterior of your fryer regularly with a damp cloth and polish with a soft dry cloth. If regular cleaning is neglected, grease will be burned on and discolorations may form. These may be removed by washing with any detergent or soap and water. A self-soaping scouring pad may be used for particularly stubborn discolorations. Always rub with the GRAIN in a horizontal direction.

Keeping the fryer exterior clean and free of accumulated grease will prevent stubborn stains from forming. Wash all exterior surfaces at least once daily. Use a cloth with warm water and a mild soap or detergent. Follow with a clear rinse, then dry.

Fingerprints are sometimes a problem on highly polished surfaces of stainless steel. They can be minimized by applying a cleaner that will leave a thin, oily or waxy film.

DO NOT use a scouring pad or harsh cleaners on the computer keypad, especially the display area.

Weekly or as Required

1. Once the shortening has been drained, flush out scraps and sediment with a small amount of warm shortening. Allow the tank to drain thoroughly.
2. Close the drain valve and fill the tank with a non-corrosive, grease-dissolving commercial cleaner, following the manufacturer's instructions.
3. Set the thermostat at a temperature recommended by the manufacturer of the commercial cleaner and boil the solution for 15 to 20 minutes. If cleaner is a water based chemical, temperature may be 190 - 212°F (88 - 100°C). Set the temperature as low as possible; monitor boiling to prevent overflow.
4. Drain the cleaning solution from the tank.
5. Close the drain valve and refill the tank with water. Add 1 cup (237 mL) of vinegar to neutralize alkaline left by the cleaner. Bring the solution to a boil and allow it to stand for a few minutes.
6. Drain the tank and rinse thoroughly with clear, hot water. All traces of cleaner must be removed. Dry the tank thoroughly.
7. Close the drain valve.
8. Add shortening to the fill level line.

The fryer is now ready for use.

MAINTENANCE

WARNING: HOT OIL AND PARTS CAN CAUSE BURNS. USE CARE WHEN OPERATING, CLEANING AND SERVICING THE FRYER.

WARNING: SPILLING HOT FRYING COMPOUND CAN CAUSE SEVERE BURNS. DO NOT MOVE FRYER WITHOUT DRAINING ALL FRYING COMPOUND FROM THE TANK.

LUBRICATION

Motors used on basketlifts are permanently lubricated.

VENT

Annually, when fryer is cool, check the flue and clear any obstructions.

SERVICE AND PARTS INFORMATION

To obtain service and parts information concerning this fryer, contact the Vulcan-Hart Service Depot in your area (refer to listing supplied with the fryer), or Vulcan-Hart Company Service Department at the address or phone number shown on the front cover of this manual.